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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/671,940

09/29/2003

Jin-ho Park

101-1007

8302

38209

7590

07/10/2006

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EXAMINER

HUFFMAN, JULIAN D

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/671,940	Applicant(s) PARK ET AL.	
	Examiner Julian D. Huffman	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 12-24 and 33-39 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 25-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 12-24 and 33-39 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 29 September 2005.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-9, 11, 25-29 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Ohashi (U.S. 20020089564 A1, cited by applicant).

With regards to claim 1, a printer (fig. 3, abstract) comprising:

an ink head (10) comprising a nozzle unit to eject ink drops (0063) in a shingling mode providing edge printing (figs. 2, 6 and 8, 0083-0087, the data shown in fig. 6, element 18, is printed first, then the remaining portions are printed, as shown in fig. 8, in a shingling mode of operation);

an ink collector (fig. 7, elements 11 and 12) positioned under paper to correspond to the nozzle unit and having first and second wall portions to define a space to collect ink (fig. 7, element 11 is a wall which has first and second portions

which define a space to collect ink, any two distinct points on element 11 are first and second wall portions); and

first and second support beams extending from the first and second wall portions of the ink collector in the paper feed direction and in an opposite direction to the paper feed direction, respectively, and alternately arranged with each other in a scan direction (11a, 11b).

With regards to claim 2, the printer of claim 1, wherein the first and second support beams are extended in the paper feeding direction by first and second lengths, respectively, the first length comprises a first paper contact portion and a first paper non-contact portion shorter than the first paper contact portion, and the second length comprises a second paper contact portion and a second paper non-contact portion shorter than the second paper contact portion (each beam has a lower portion which does not contact the paper and an upper portion which contacts the paper).

With regards to claim 3, the printer of claim 1, wherein the first and second support beams extend to have the same length to support the paper (fig. 7).

With regards to claim 4, the printer of claim 3, wherein an end point of the first support beam and an end point of the second support beam face each other in the scan direction (fig. 7).

With regards to claim 5, the printer of claim 3, wherein the end point of the first support beam extends in the paper feed direction to interlace with that of the second support beam (fig. 7).

With regards to claim 6, the printer of claim 4, wherein the first and second support beams have the same height in a direction toward the ink head, the direction

perpendicular to the paper feed direction and the scan direction (fig. 7, they are identical).

With regards to claim 7, the printer of claim 5, wherein the first and second support beams have the same height in a direction toward the ink head, the direction perpendicular to the paper feed direction and the scan direction (fig. 7, identical).

With regards to claim 8, the printer of claim 7, wherein the first and second support beams extend from barriers (the lower most portion of element 11a constitutes a barrier), which partition the ink collector (the barrier divides the ink collector into parts).

With regards to claim 9, the printer of claim 7, wherein the support beam is a rib segmenting a space of the ink collector without partitioning it (the ribs partially segment the ink collector without completely partitioning it).

With regards to claim 11, the printer of claim 1, wherein the second support beam has a slant end portion inclining in the paper feed direction (fig. 7, note direction of arrow as paper feed direction).

With regards to claim 25, a printer (fig. 3, abstract) comprising:

an ink head (10) ejecting ink drops at an edge of a printing medium;

an ink collector (11, 12) having first and second wall portions spaced-apart from each other to define a space to collect ink from the printing medium (fig. 7, element 11 is a wall which has first and second portions which define a space to collect ink, any two distinct points on element 11 are first and second wall portions);

a plurality of first support beams (fig. 7, element 11b) extending over the space at an upper portion of the ink collector in a printing medium feed direction to support the printing medium at a printing medium feed side of the ink collector (0078); and

a plurality of second support beams (11a) extending over the space at an upper portion of the ink collector in an opposite direction to the printing medium feed direction and alternately arranged with the plurality of first support beams to support the printing medium at a printing medium discharge side of the ink collector (0078).

With regards to claim 26, the printer of claim 25, wherein the ink head comprises an ink nozzle to eject ink drops on the printing medium when the ink head moves in a scan direction (0063).

With regards to claim 27, the printer of claim 26, wherein the ink collector is located under the printing medium and has a width corresponding to the width of the ink head (figs. 3 and 7).

With regards to claim 28, the printer of claim 26, wherein the ink collector is located under the printing medium and has a width wider than the width of the ink head (figs. 3 and 7).

With regards to claim 29, the printer of claim 27, wherein the ink collector further comprises:

a floor portion (11), and the space portion has an opening above the floor portion to catch the ink drops (the entire portion above the ink absorber 12 is a space portion).

With regards to claim 31, the printer of claim 25, wherein the ink collector comprises:

a plurality of space portions (space portions exist between each support beam 11a, 11b); and

a plurality of barriers separating the plurality of space portions, wherein the first and second support beams integrally extend from the barriers alternately with respect to each other (the lower portion of each support 11a, 11b, is a support barrier, with the integral top portion functioning as the support beam).

4. Claim 32 is rejected under 35 U.S.C. 102(b) as being anticipated by Yoshinaga (U.S. 20020041303 A1).

Yoshinaga discloses a printer comprising:

an ink head (14) ejecting ink drops at an edge of a printing medium;

a platen (20a) along which the printing medium is conveyed;

an ink collector (22) including a space portion (27a-27e) positioned beneath an upper surface of the platen to collect excess ink from the printing medium (0048);

a plurality of first support beams (23a, 23b) disposed within the space portion at a printing medium feed side of the ink collector extending in a printing medium feed direction to support the printing medium above the space portion (the support beams extend throughout the ink collector, including the feed side and discharge side); and

a plurality of second support beams (23c, 23d) disposed within the space portion at a printing medium discharge side of the ink collector and extending in an opposite direction to the printing medium feed direction (the second support beams 23c, 23d extend in both the feed direction and discharge direction opposite the feed direction), the plurality of second support beams being overlapped by the plurality of first support

beams to support the printing medium during feeding thereof between the ink head and the ink collector (the beams overlap in the scanning direction).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohashi in view of Kobayashi et al. (U.S. 6,158,840).

Ohashi discloses an absorber (fig. 7a, element 12) and everything claimed with the exception of the space portion comprising a felt to absorb ink drops caught by the space portion.

Kobayashi et al. discloses a felt ink absorber (column 3, lines 35-37, fig. 1, element 15).

It would have been obvious to one having ordinary skill in the art at the time of the invention to replace the absorber of Ohashi with a felt absorber, as suggested by Kobayashi et al., for the purpose of providing a "porous material having excellent ink receptivity and retention" (column 3, lines 35-37).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohashi in view of Matsushashi.

Ohashi discloses everything claimed with the exception of a second support beam with a round end portion.

Matsushashi discloses support beams with round end portions (fig. 8, 214).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the beam of Ohashi so as to have a round end portion as taught by Matsushashi for the purpose of providing a smooth path for the print medium to travel thereby providing a more constant feed.

Response to Arguments

7. Applicant argues the objection of claim 9 stating that the language is clear in light of the disclosure, specifically, figs. 5, 7b, 9a, 9b and 9c. The examiner agrees that this language, interpreted in light of the disclosure, is clear and the objection is withdrawn.

Applicant argues the rejection of claims 1-11 as being anticipated by Matsushashi. Applicant states that "the guide ribs 214 are not the same as 'first and second support beams extending from the first and second wall portions of the ink collector in the paper feed direction and in an opposite direction to the paper feed direction, respectively' ". This argument is persuasive. Fig. 7 depicts the printhead directly above the ink collector shown in fig. 8, and thus directly above the ribs. Accordingly, the collector and ribs are at a center, and do not appear to be at a discharge side or feed side, and the ribs are not at the discharge side, which begins at roller 206.

Accordingly this rejection of claims 1-11 is withdrawn.

Applicant argues the rejection of claims 25-29 and 31 as being anticipated by Matshuhashi. The examiner agrees with applicant that "the guide ribs 214 simply cannot be construed as 'extending over the space at an upper portion' " (see pages 13-14).

Applicant argues the rejection of claim 32. The examiner agrees that "since all of the guide ribs 214 are disposed in the center portion of the bottom plate 212a, it necessarily follows that the guide ribs 214 cannot be construed as being 'disposed... at a printing medium feed side' and 'disposed... at a printing medium discharge side,' as recited in independent claim 32." (see page 15). Further, it is noted that fig. 7 depicts the printhead directly above the ink collector shown in fig. 8, and thus directly above the ribs. Accordingly, the collector and ribs are at a center, and do not appear to be at a discharge side or feed side, and the ribs are not at the discharge side, which begins at roller 206.

Accordingly, this rejection of claims 25-32 is withdrawn.

Applicant argues the rejection of claims 1-9, 11, 25-29, 31 as being anticipated by Ohashi. Applicant states that Ohashi does not disclose an ink collector having first and second wall portions to define a space to collect ink. The examiner disagrees, since considering a wall portion between two ribs, the wall portion defines a space, bounded on two other sides by the ribs, and this space is capable of collecting ink via the ink absorber 12 and/or ink that drips down through the absorber.

Applicant's argument that the bottom plate is not a wall portion is not persuasive. A wall need not be horizontal, since the broadest reasonable interpretation of a wall is simply a material layer enclosing space.

Applicant's arguments regarding claim 32 is moot in view of the new grounds of rejection.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 10:00a.m.-6:30p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Julian D. Huffman
26 June 2006